

UPRATING OF METALLIC MAINS USING BOND AND BOLT TECHNIQUE

PROJECT OUTLINE

Part of the RIIO main's replacement programme, tRiIO engaged Christie Murray as Principal Contractor to oversee the up-rating of a 36 inch low pressure metallic mains running through Hyde Park.

Christie Murray engaged PMC to utilise a new technique called Bond and Bolt to enable them to flowstop, cut out and isolate the de-commissioned pipe with minimal excavation and re-instatement costs.

KEY CHALLENGES

The team were working in the middle of Hyde Park, through a very busy thoroughfare. Public safety was therefore of paramount importance. There were also many environmental considerations that had to be taken into account, such as the disruption of wildlife and tree roots that had to be protected.

The time-scales to complete the work were very tight, hence utilising the Bond and Bolt technique prevented the requirement of a large excavation underneath the pipe to install chains. The Bond and Bolt technique only requires the crown of the main to be exposed. As well as reduced excavation costs, this also means vast backfill savings and a potential reduction in 3rd party damage.



Speakers Corner in Hyde Park were the works took place



Shot-blasting the pipe



Applying the resin



Bonding the saddles



Drilling the saddles

PROJECT DELIVERY

After shallow excavation, PMC installed 6 Bond and Bolt fittings along the pipeline.

The Bond and Bolt system works by applying an adhesive to the shot blasted main, before seating the saddle in place. Four holes are then drilled and tapped under gas free conditions before bolts are installed and encapsulated with resin.

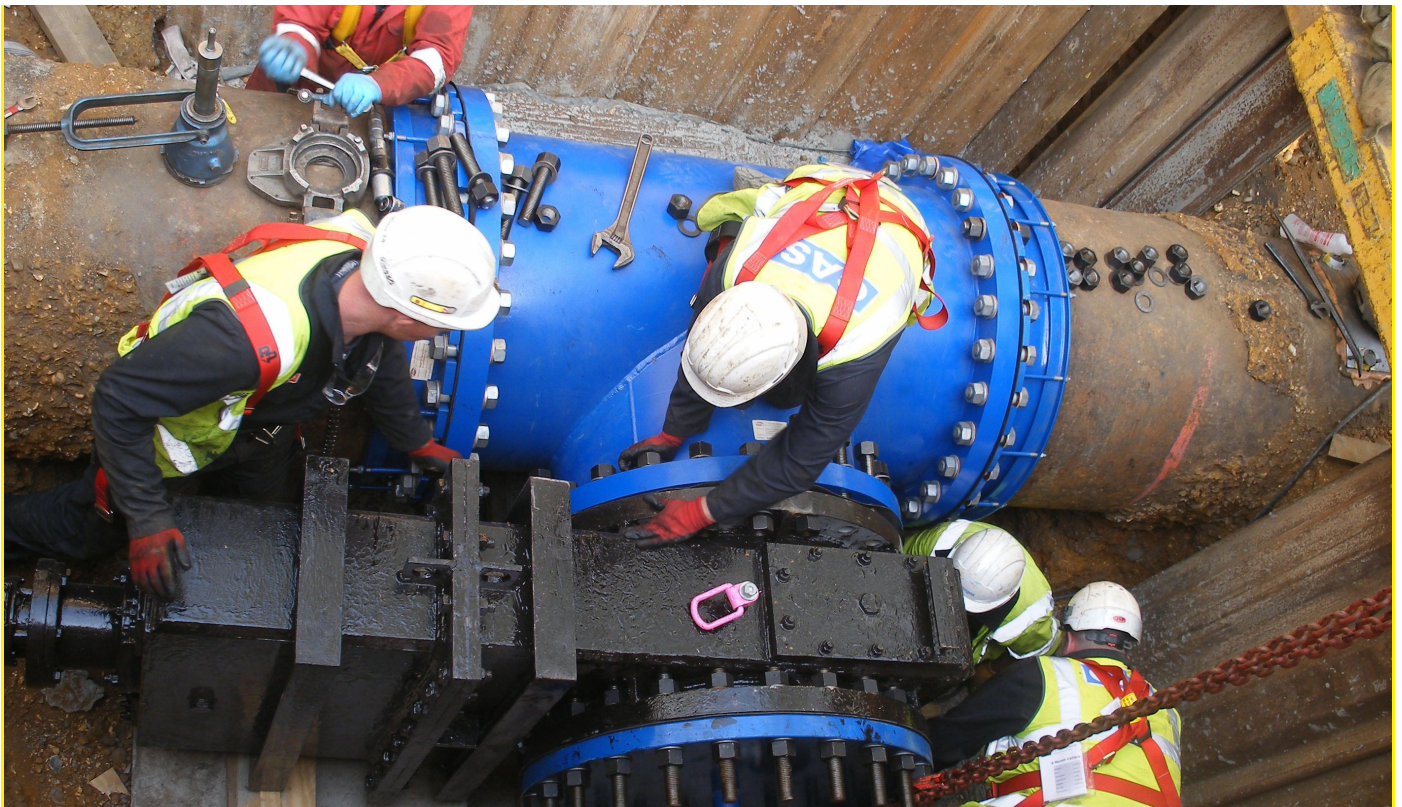
Flowstopping bags were then installed along with a bypass across the Bond and Bolt fittings. The de-commissioned pipeline was then cut out and a new 36 inch tee and valve was installed ready for connection to the district governor where the pressure will be increased from 75mb to 2bar, ensuring that sufficient gas flows to the residents and businesses around Hyde Park.



The flowstopping and bypass



The pipe being cut out



The new tee and valve being fitted ready for connection to the governor